

## ABSTRACT

A thin film magnetic recording head utilizing a timing based servo pattern is fabricated using a focused ion beam (FIB). The recording head is fabricated by sputtering a magnetically permeable thin film onto a substrate. A gap pattern, preferably a timing based pattern, is defined on the thin film and the FIB cuts a gap through the thin film based on that pattern. Once completed, the recording head is used to write a servo track onto magnetic tape. The timing based servo track then allows for the precise alignment of data read heads based on the positional information obtained by a servo read head which scans the continuously variable servo track.